

**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: Duane, Dc Examiner #: 6933 Date: Jan 12, 2004  
 Art Unit: 1711 Phone Number 30 \_\_\_\_\_ Serial Number: 1024766  
 Mail Box and Bldg/Room Location: 10271 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

---

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

*Structure of formula I. Thanks*

<b>STAFF USE ONLY</b>		<b>Type of Search</b>	<b>Vendors and cost where applicable</b>
Searcher:		NA Sequence (#)	STN _____
Searcher Phone #:		AA Sequence (#)	Dialog _____
Searcher Location:		Structure (#)	Questel/Orbit _____
Date Searcher Picked Up:		Bibliographic	Dr.Link _____
Date Completed:		Litigation	Lexis/Nexis _____
Searcher Prep & Review Time:		Fulltext	Sequence Systems _____
Clerical Prep Time:		Patent Family	WWW/Internet _____
Online Time:		Other	Other (specify) _____

Page 1Duc866b

=> file reg  
FILE 'REGISTRY' ENTERED AT 10:12:52 ON 13 JAN 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 12 JAN 2004 HIGHEST RN 636984-67-3  
DICTIONARY FILE UPDATES: 12 JAN 2004 HIGHEST RN 636984-67-3

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

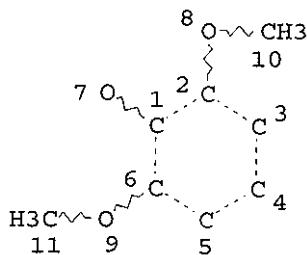
=> file caplus  
FILE 'CAPLUS' ENTERED AT 10:12:55 ON 13 JAN 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is  
held by the publishers listed in the PUBLISHER (PB) field (available  
for records published or updated in Chemical Abstracts after December  
26, 1996), unless otherwise indicated in the original publications.  
The CA Lexicon is the copyrighted intellectual property of the  
American Chemical Society and is provided to assist you in searching  
databases on STN. Any dissemination, distribution, copying, or storing  
of this information, without the prior written consent of CAS, is  
strictly prohibited.

FILE COVERS 1907 - 13 Jan 2004 VOL 140 ISS 3  
FILE LAST UPDATED: 12 Jan 2004 (20040112/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> d que  
L1 SCR 2043  
L3 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

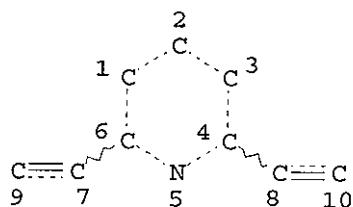
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L11 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L14 4 SEA FILE=REGISTRY SSS FUL L1 AND L11 AND L3

L15 3 SEA FILE=CAPLUS ABB=ON PLU=ON L14

=> d ti 1-3

L15 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Polymers and dienes, their synthesis, and electronic devices incorporating same

L15 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI A novel fluorescent monomer for the selective detection of phenols and anilines

L15 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
TI Molecular imprinting via a novel mixed acetal linker for a fluorescent sensor

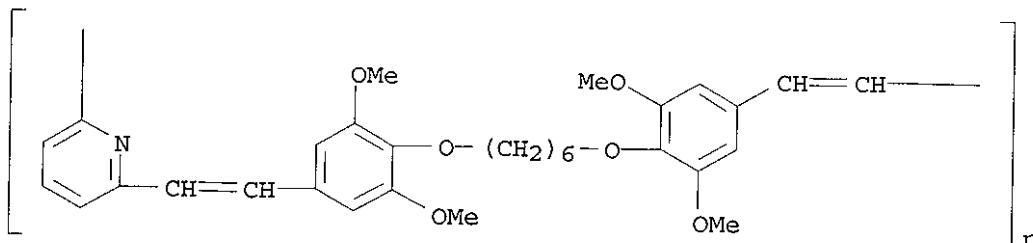
=> d ibib abs hitstr ind total 115

L15 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2002:716337 CAPLUS  
DOCUMENT NUMBER: 137:248122  
TITLE: Polymers and dienes, their synthesis, and electronic devices incorporating same  
INVENTOR(S): Epstein, Arthur; Wang, Daike  
PATENT ASSIGNEE(S): The Ohio State University, USA  
SOURCE: PCT Int. Appl., 54 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002072654	A2	20020919	WO 2002-US7420	20020312
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002177637	A1	20021128	US 2002-84866	20020228
PRIORITY APPLN. INFO.:			US 2001-275443P	P 20010313
			US 2001-275762P	P 20010314
			US 2002-84866	A 20020228

AB Polymers having RCH:CHR1CH:CHR groups [R = substituted phenylene or (substituted) pyridinediyl] in the backbone and RCH:CHR1CH:CHR [R = (substituted) quinolinyl, (substituted) pyridinyl, substituted Ph, or (substituted) naphthyl; R1 = (substituted) C<sub>6</sub>H<sub>4</sub> or (substituted) pyridinediyl] are manufactured. A typical polymer was manufactured by refluxing mixture containing 150 mL THF, 502 mg 1,6-bis(2,6-dimethoxy-4-carbonylphenoxy)hexane, 890 g 2,6-pyridinediylbis(triphenylphosphonium bromide), and 10 mL 2M KO-tert-Bu in THF.  
IT 460061-30-7P 460061-33-0P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(conjugated unsatd. aromatic polymers and divinylarylene compds. for electronic devices)  
RN 460061-30-7 CAPLUS  
CN Poly[2,6-pyridinediyl-1,2-ethenediyl(3,5-dimethoxy-1,4-phenylene)oxy-1,6-

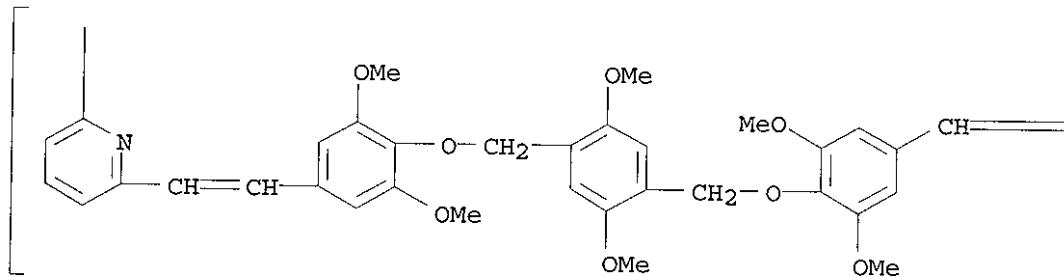
hexanediyloxy(2,6-dimethoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



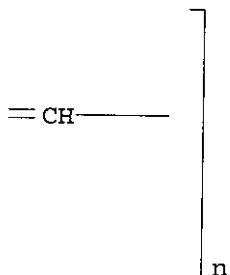
RN 460061-33-0 CAPLUS

CN Poly[2,6-pyridinediyl-1,2-ethenediyl(3,5-dimethoxy-1,4-phenylene)oxymethylene(2,5-dimethoxy-1,4-phenylene)methyleneoxy(2,6-dimethoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C08G

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 76

ST polyaryleneethynylene manuf electronic device;  
bisdimethylcarbonylphenoxyhexane pyridinediylbistriphenylphosphonium  
bromide copolymer manuf

IT Electric apparatus

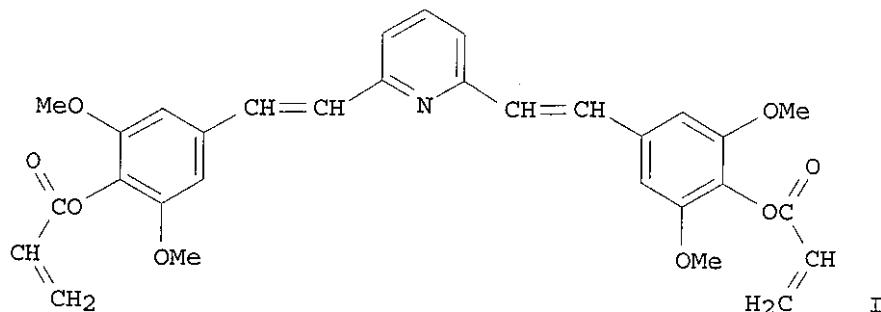
(conjugated unsatd. aromatic polymers and divinylarylene compds. for electronic devices)

IT Poly(arylenealkenylenes)  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(conjugated unsatd. aromatic polymers and divinylarylene compds. for electronic devices)

IT 2131-98-8P 3095-81-6P 6266-89-3P 24346-76-7P 51249-14-0P  
103046-42-0P 107758-51-0P 188970-59-4P 204185-75-1P 219144-52-2P  
289059-26-3P 289059-27-4P 460061-29-4P 460061-30-7P  
460061-32-9P 460061-33-0P 460061-34-1P 460061-35-2P  
460061-36-3P 460061-37-4P 460061-38-5P 460061-39-6P 460061-40-9P  
460061-41-0P 460061-42-1P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(conjugated unsatd. aromatic polymers and divinylarylene compds. for electronic devices)

IT 66-99-9, 2-Naphthaldehyde 86-51-1, 2,3-Dimethoxybenzaldehyde 123-11-5,  
p-Anisaldehyde, reactions 872-85-5, 4-Pyridinecarboxaldehyde  
1122-72-1, 6-Methyl-2-pyridinecarboxaldehyde 1519-47-7,  
1,4-Xylylenebis(triphenylphosphonium chloride) 2103-57-3,  
2,3,4-Trimethoxybenzaldehyde 4363-93-3, 4-Quinolinecarboxaldehyde  
5470-96-2, 2-Quinolinicarboxaldehyde 10273-64-0 61973-87-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(divinylarylene compound precursor; conjugated unsatd. aromatic polymers and divinylarylene compds. for electronic devices)

L15 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1999:268758 CAPLUS  
DOCUMENT NUMBER: 131:13121  
TITLE: A novel fluorescent monomer for the selective detection of phenols and anilines  
AUTHOR(S): Reppy, Mary A.; Cooper, Martin E.; Smithers, Juston L.; Gin, Douglas L.  
CORPORATE SOURCE: Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA  
SOURCE: Journal of Organic Chemistry (1999), 64(11), 4191-4195  
CODEN: JOCEAH; ISSN: 0022-3263  
PUBLISHER: American Chemical Society  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
GI



**AB** The authors have developed a new polymerizable fluorescent probe, 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine (I), that is quenched selectively by aromatic alc. and amines, even in the presence of their aliphatic analogs, oxygen, and water. This selective quenching occurs with I dissolved in nonpolar solvents such as benzene or crosslinked inside a polymethacrylate matrix. Monomer I contains a central pyridine ring similar to C. V. Kumar's fluorophore (1993, 1994). However, it has a different conjugated core architecture and can also participate in radical copolymers. with conventional monomers. This novel fluorophore architecture leads to a different mechanism of fluorescence quenching from that of Kumar's fluorophore and also to a high degree of analyte selectivity.

**IT** 225642-49-9P, 2,6-Bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine-ethylene glycol dimethacrylate copolymer  
**RL:** ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
 (preparation for the selective detection of phenols and anilines by fluorescence quenching)

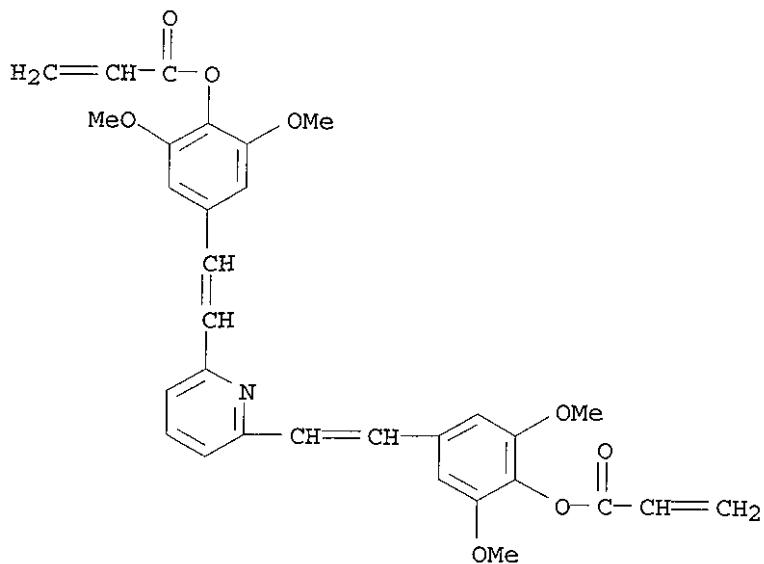
**RN** 225642-49-9 CAPLUS

**CN** 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with 2,6-pyridinediylbis[2,1-ethenediyl(2,6-dimethoxy-4,1-phenylene)] di-2-propenoate (9CI) (CA INDEX NAME)

**CM** 1

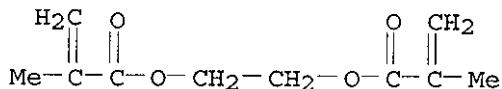
**CRN** 188646-84-6

**CMF** C31 H29 N 08



CM 2

CRN 97-90-5  
CMF C10 H14 O4



- CC 80-3 (Organic Analytical Chemistry)  
Section cross-reference(s): 25, 37
- ST bisacryloyldimethoxyphenylvinylpyridine fluorescent probe phenol aniline selective detection
- IT Amines, analysis  
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)  
(aromatic; preparation and NMR and use of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine for selective detection of phenols and anilines by fluorescent quenching)
- IT Solvent effect  
(on fluorescent quenching of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine)
- IT Fluorescence quenching  
(preparation and NMR and use of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine for selective detection of phenols and anilines by fluorescent quenching)
- IT Phenols, analysis  
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)  
(preparation and NMR and use of 2,6-bis[2-(4-acryloyl-3,5-

- dimethoxyphenyl)vinyl]pyridine for selective detection of phenols and anilines by fluorescent quenching)
- IT 62-53-3, Benzenamine, analysis 100-61-8, N-Methyl aniline, analysis 106-44-5, analysis 108-39-4, analysis 108-44-1, m-Toluidine, analysis 108-95-2, Phenol, analysis 120-72-9, Indole, analysis 121-69-7, analysis  
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)  
(2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine for selective detection of phenols and anilines by fluorescent quenching)
- IT 97-90-5, Ethylene glycol dimethacrylate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(copolymer. with 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine )
- IT 64-17-5, Ethanol, analysis 75-65-0, analysis 100-51-6, Benzyl alcohol, analysis 108-93-0, Cyclohexanol, analysis 109-73-9, Butylamine, analysis 111-92-2, Dibutylamine 121-44-8, analysis  
RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)  
(fluorescent quenching of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine by)
- IT 64-19-7, Acetic acid, analysis 67-56-1, Methanol, analysis 67-64-1, 2-Propanone, analysis 67-68-5, DMSO, analysis 78-93-3, 2-Butanone, analysis 100-66-3, Anisole, analysis 111-31-9, Hexanethiol  
RL: ARU (Analytical role, unclassified); PRP (Properties); ANST (Analytical study)  
(fluorescent quenching of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine by)
- IT 7703-74-4P, 2,6-Bis(bromomethyl)pyridine  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(in preparation of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine)
- IT 61973-87-3P, 2,6-Bis(diethoxyphosphorylmethyl)pyridine 106852-80-6P, 4-tert-Butyldimethylsilyloxy-3,5-dimethoxybenzaldehyde 225642-47-7P, 2,6-Bis(2-(4-hydroxy-3,5-dimethoxyphenyl)vinyl)pyridine  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and NMR and reaction in preparation of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine)
- IT 188646-84-6P, 2,6-Bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(preparation and NMR and use of 2,6-bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine for selective detection of phenols and anilines by fluorescent quenching)
- IT 225642-49-9P, 2,6-Bis[2-(4-acryloyl-3,5-dimethoxyphenyl)vinyl]pyridine-ethylene glycol dimethacrylate copolymer  
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
(preparation for the selective detection of phenols and anilines by fluorescence quenching)
- IT 814-68-6, 2-Propenoyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with 2,6-Bis(2-(4-hydroxy-3,5-dimethoxyphenyl)vinyl)pyridine)  
IT 122-52-1, Triethyl phosphite  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with 2,6-Bis(bromomethyl)pyridine)  
IT 1195-59-1, 2,6-Pyridinedimethanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with hydrobromic acid in acetic acid)  
IT 18162-48-6, tert-Butyldimethylsilyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with syringaldehyde)  
IT 134-96-3, Syringaldehyde  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction with tert-butyldimethylsilyl chloride)  
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1998:531712 CAPLUS  
DOCUMENT NUMBER: 129:310123  
TITLE: Molecular imprinting via a novel mixed acetal linker  
for a fluorescent sensor  
AUTHOR(S): Reppy, Mary A.; Gin, Douglas L.  
CORPORATE SOURCE: Department of Chemistry, University of California,  
Berkeley, CA, 94720, USA  
SOURCE: Polymer Preprints (American Chemical Society, Division  
of Polymer Chemistry) (1998), 39(2), 386-387  
CODEN: ACPPAY; ISSN: 0032-3934  
PUBLISHER: American Chemical Society, Division of Polymer  
Chemistry  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Some work was done incorporating imprinting polymers in sensors. The authors are studying the incorporation of a fluorescent event, thus creating a fluorescent sensor for the analyte.  $\beta$ -Estradiol was chosen to be used in an imprinting approach that a combination of the ionic and covalent methods. The  $\beta$ -estradiol converted into  $\beta$ -estradiol/HEMA acetal (I) at the 17-hydro group of the estradiol. The chosen fluorophore was a pyridine-based fluorophore-diacylate (II) previously developed in the authors' group. II quenched by phenolic species in solution and can form an acid-base complex with the phenol group on  $\beta$ -estradiol. Incorporation of fluorophore into the polymer as an acid-base complex with I creates a 2nd binding site in the cleaved polymer for the phenolic group of the  $\beta$ -estradiol and may allow the fluorescent detection of binding. The results can be used for developing a fluorescent sensor for  $\beta$ -estradiol.

IT 214463-49-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(imprinting polymer using novel mixed acetal linker for fluorescent  
sensor for  $\beta$ -estradiol)

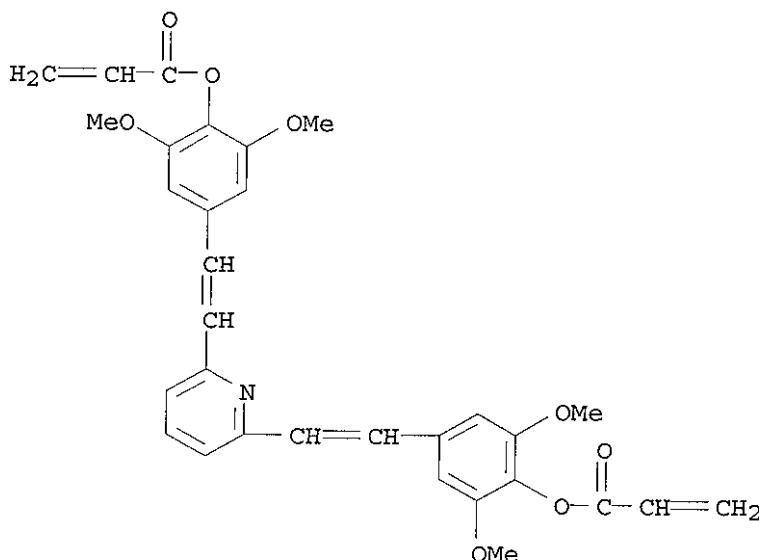
RN 214463-49-7 CAPLUS

CN 2-Propenoic acid, 1,2-ethanediyl ester, polymer with 2,2'-azobis[2-  
methylpropanenitrile] and 2,6-pyridinediylbis[2,1-ethenediyl(2,6-dimethoxy-  
4,1-phenylene)] di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 188646-84-6

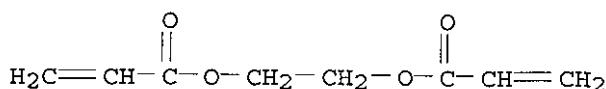
CMF C31 H29 N O8



CM 2

CRN 2274-11-5

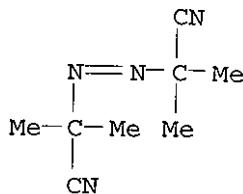
CMF C8 H10 O4



CM 3

CRN 78-67-1

CMF C8 H12 N4



CC 80-2 (Organic Analytical Chemistry)  
Section cross-reference(s): 32, 37  
ST estradiol acetal deriv imprinting polymer sensor; fluorescent sensor  
imprinting polymer estradiol detn  
IT Optical sensors  
(fluorometric; mol. imprinting via novel mixed acetal linker for  
fluorescent sensor for  $\beta$ -estradiol)  
IT 214463-49-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(imprinting polymer using novel mixed acetal linker for fluorescent  
sensor for  $\beta$ -estradiol)  
IT 50-28-2,  $\beta$ -Estradiol, analysis  
RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant  
or reagent)  
(mol. imprinting via novel mixed acetal linker for fluorescent sensor  
for  $\beta$ -estradiol)  
IT 188646-84-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(mol. imprinting via novel mixed acetal linker for fluorescent sensor  
for  $\beta$ -estradiol)  
IT 214463-48-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(mol. imprinting via novel mixed acetal linker for fluorescent sensor  
for  $\beta$ -estradiol)  
IT 67-66-3, properties 71-43-2, Benzene, properties 110-82-7,  
Cyclohexane, properties 2189-60-8, Octyl benzene  
RL: PRP (Properties)  
(porogen in preparation of imprinting polymer using novel mixed acetal  
linker for fluorescent sensor for  $\beta$ -estradiol)  
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>